Linguistic Ambiguity and Conceptual Engineering: Gender Terms[1]

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1. Background: Externalism about Natural Kind Terms

This paper addresses recent debates on how to understand gender terms like 'male' and 'female'. For background, I'll start with a brief state-of-the-art summary of the by now well-established philosophical "externalism" on the meaning of natural kind terms like 'water'. In the second section I'll move on to discuss the case of gender terms like 'male' and 'female', with the background of recent debates on whether the task of philosophy includes what is nowadays called "conceptual engineering", and I'll defend a form of pluralism about them.

Karl Popper and Willard V. O. Quine – two of the most prominent philosophers in the 1960s, if not the most influential at the time – expressed a shared contempt for *Aristotelian essentialism*, manifesting the positivist empiricism that was taken for granted at the time in the Analytic tradition in philosophy – the tradition started by Frege, Russell, and Wittgenstein. Popper and Quine were not very clear about exactly what they meant by "essentialism" (cf. Büttemeyer 2005, García-Carpintero & Pérez Otero 1999). *Prima facie* surprisingly for a school of philosophy that prides itself on its clarity and argumentative rigor, it is hard to find any compelling argument against the doctrine in Popper or Quine; it all seems ideological. The contempt was clear in their tirades against Aristotelian definitions (say, in Popper's *The Open Society and Its Enemies*, vol. II (1945) and *Unended Quest* (1981), or in Quine's papers "Reference and Modality" (1953) and "Three Grades of Modal Involvement" (1953)), as was the empiricist, Humean prejudice against substantive modal claims behind it.

Although Popper and Quine never properly articulated the "Aristotelian essentialism" they declared to be opposing, it is clear enough that they would include under that label the view that Tyler Burge (1979), Saul Kripke (1980) and Hilary Putnam (1975) would soon be influentially advocating and was as a result generally adopted in the Analytic tradition. This is the view that individuals and kinds have "real definitions" which, being only knowable in part by empirical means, capture their essence – how they are constituted – and entail thereby the necessary truth of *de re* claims about them. 'Water is H_2O' is a standard illustration: being constituted by molecules of H_2O provides a real definition of the kind *water*, so that, necessarily, any quantity of the stuff would be so constituted, in every "possible world" in which it could be found.

Note that the fact that Popper's and Quine's rejection of essentialism thus understood was clearly based on pure ideological prejudice didn't mean that it wouldn't have any influence. It would be naïve these days to expect that such strongly negatively charged attitudes expressed by powerful individuals would have an impact commensurate with their problematic intellectual grounds. I can testify, anecdotally, to the impact that the study of Quine's works on modality had on me as a PhD student, as did Popper's autobiography at the same time, making me partake for a while in their dislike of the doctrine. Büttemeyer (2005) quotes similar testimonies; it is also telling that he cannot fully distance himself from the view, in spite of his compelling criticism of its philosophical foundations.

On the Burge-Kripke-Putnam version of the view that is now generally embraced, kinds like water are picked out by their superficial stereotypical features, *being a colorless, odorless, tasteless liquid, being found in rivers, lakes and oceans, falling as rain, being thirst-quenching* ... However, what determines whether or not a quantity of the stuff belongs in the category is not the (weighed) balance of such superficial features, as it is in the case of kinds without an underlying essence – a good example of which might be *weed*, which applies on the basis of conditions so heavily dependent on our fleeting interests that it is difficult to expect there to be any explanatorily interesting underlying traits common to all its central cases. It is rather an underlying "superexplanatory" essence ("a single property that causes all the other shared properties", Goldman *et al.* 2020, 320; cf. Bird & Tobin 2024 for a good summary presentation), in the case of *water*, as said, *being made of H_2O molecules*.

This is what the "externalism" of the Burge-Kripke-Putnam view comes to: by themselves, the features that we "*a priori*" associate with kind terms like 'water', as part of our semantic competence, do not suffice to fix their reference; "external" features that are not in our heads *a priori* but can be discov-

ered by empirical research crucially contribute to it. To establish this, Kripke and Putnam devised thought-experiments that mobilized the intuitions of many readers in support of such essentialism, which explain their influence. Putnam imagined a planet seemingly undistinguishable from ours – *Twin Earth* – in which what looks like water has nonetheless an altogether different chemical composition. Although in ordinary circumstances water and twin-water manifest themselves equally, their wholly different internal compositions are easily distinguishable in the lab through appropriate experiments. Most of us would agree that the liquid in Twin Earth only appears to be water, but it is not. Psychologists were soon conducting experiments on categorization using similar vignettes, which have provided data consonant with the Twin Earth intuitions even in small children (Keil 1989, Gelman 2003).

As Kripke shows, if we think of conceptual systems along the lines of David Lewis's (1975) "languages" (abstract assignments of "meanings" to "expressions"), there is nothing untoward in assigning as "meanings" to expressions like proper names and natural kind terms the objects or natural kinds (understood along Aristotelian lines, defined by empirically ascertained essences) that they may be taken to refer to. The possible worlds framework offers a "proof of concept", by providing a formally precise way to articulate this picture. This disposes of the only Popperian and Quinean considerations one may find at least intelligible. As Kripke famously put it, the expressions are "rigid designators": they pick out the same entities relative to any possible world at which the propositions they help to express are to be evaluated for truth or falsity, because this is just what the expressions mean in the relevant language. This is perfectly understandable and clear-cut. The remaining question, as Stalnaker (1997) rightly argues, is whether a semantics with this shape truly characterizes the conceptual systems we are endowed with. The philosophical question about this "metasemantic" or "foundational-semantic" question is this: what facts should be considered to issue an answer? Kripke's compelling "causal-historical" or "meaning contagion" picture suggests an at least partial account.

I should thus note that it is not that Burge, Kripke and Putnam effected a replacement of an empiricist set of assumptions by alternative, metaphysics-friendly essentialist attitudes as shared ideological prejudices in the discipline. Their work explains the current openness of Analytic Philosophy to all kinds of views, including Popperian-Quinean empiricism, which still has a following in the tradition. In part what caused the change was the formal rigor through which Burge, Kripke and Putnam articulated the view, assuming the framework nowadays standard in linguistics, possible worlds semantics. Fine (1994, 1995) later contributed to the precise formal articulation of the picture. It is

telling to compare to this work Popper's muddled grappling with meanings (in his opposing to Aristotelian definitions a "methodological" nominalism he was sympathetic towards, cf. again Büttemeyer 2005) or Quine's dogmatic rejection of the "third grade" of modal involvement, i.e., *de re* necessities (cf. García-Carpintero & Pérez Otero 1999).

In fact, however, many philosophers responded to the Burge-Kripke-Putnam discussions by adopting a new dogmatism unsupported by the evidence: *referentialism*. They concluded that the descriptive features that we use *a priori* to pick out paradigm amounts of water have nothing to do with the expression's meaning. In my work on these issues, and among other considerations, I have pointed out against this (GC 2000, 2018) the fact that the compelling Kripke-Putnam modal considerations for rigid reference apply also to expressions whose semantics manifestly involves descriptive features: indexicals ("phi features" like – roughly – being female for 'she'), "descriptive names" like Evans' *Julius* (stipulatively introduced to pick out *whoever invented the zip*) and referentially used descriptions. Haukioja *et al.* (2021) enlist experimental philosophy data to show that, indeed, people share Putnam's Twin Earth intuitions that instantiating superficial descriptive features associated with *water* does not *suffice* for a liquid to be in the category. According to folk intuitions, however, a weighed sum of them is *necessary* for it.

As said, empirical results in psychology on categorization have provided data consonant with the intuitions that Burge, Kripke and Putnam unearthed (Keil 1989, Gelman 2003). But, as Haukioja *et al.* (2021, 380) point out, such data appear to be also in agreement with their anti-referentialist results. As a matter of fact, philosophers dominated by referentialist dogma appear to fail to notice that Putnam held that *being H_2O* provides the real essence of the kind designated by 'water' only in the "predominant sense" of this word (Putnam 1975, 239). He assumed that it has other "senses", which can be operative as a function of "context": 'water' may just mean the same as "transparent, odorless, tasteless liquid filling rivers, lakes and oceans" (*ibid.*). This provides a non-explanatory, non-natural extensionally different kind (for it is instantiated as much on Twin Earth and on Earth), given by a weighed cluster of the criterial features we use in applying the term – what Locke would have called a "nominal essence".[2]

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2 Crane (2021) argues that there are two disjointed sets of considerations for natural kinds, a "philosophy of language" approach, and a "philosophy of science" one. She questions the former and endorses the latter, which she takes to lead to a view not unlike the one I endorse. But her "philosophy of language" approach assumes the referentialist, anti-descriptivist picture I am dismissing. Properly un-

Tobia, Newman and Knobe (2020) provide experimental results that agree with Putnam's assumptions about what – in my view correctly – they interpret as the *polysemy* (*ibid.*, §6.2) of kind-designating terms. Now, Haukioja *et al.* (2023) present experimental work that in their view contradicts Tobia *et al.*'s results. However, Haukioja *et al.* ignore Tobia *et al.*'s suggestion that the "ambiguity" in question is not *homonymy* (the expression has different and unrelated meanings) but *polysemy* (the meanings are related, like 'chestnut' used for the tree and for the seed, or 'book' used for a type with many copies, or for a physical copy). A majority of Tobia *et al.*'s subjects agreed with the following two claims: "There is a sense in which the liquid from Twin Earth is water", and "Ultimately, if you think about what it really means to be water, you would have to say there is a sense in which the liquid from Twin Earth is not truly water at all". Haukioja *et al.* reason that, if natural kind terms are truly ambiguous along the lines they take Putna's and Tobia's *et al.* view, then subjects should be equally in agreement with reverse versions of those claims: "There is a sense in which the liquid from Twin Earth is *not* water", and "Ultimately, if you think about what it really means to be water, you would have to say there is a sense in which the liquid from Twin Earth *is* truly water", and also with "neutral" versions in which the 'water' ascription is asserted and denied, without the qualifiers "ultimately", "when thinking about it", "really", "truly": "if 'water' is ambiguous … responses [to the reversed and neutral sets of claims] should be similar to responses [to the original ones]" (*ibid.*, 10); if they are not similar, "that would at least count against an ambiguity view that gives *equal weight* to both senses" (*ibid.*), my italics. They found that their subjects manifested more agreement with the non-member than member classifications for Twin Earth vignettes in all cases.

However, unlike true ambiguity (homonymy) claims, the polysemy view need not give the two meanings "equal weight"; it may rather share Putnam's view that the natural kind sense is *predominant.* Most theories of polysemy in fact assume that one of the senses is more basic or "literal", while the others are derived from it through metonymical or metaphorical processes (cf. Vicente & Falkum 2017).[3] In the predominant (or otherwise more fundamental) sense of

a natural kind term like 'water', superficial traits are a standard criterion of membership in that they are explained by the underlying essence; but it is the latter that determines membership in the category and modal properties of the conveyed contents. As a form of metonymy, the term can be derivatively taken to apply to any individuals that have the superficial traits (or a weighed balance of them), including samples of Twin Earth "water", whatever the explanation or grounds for their instantiation. If this is so, the original questions by Tobia *et al.* are appropriately phrased; it is only "in a sense" that the liquid in Twin Earth is water, while (*ultimately, reflectively, really, truly*) it is not. Responses to the neutral questions are predicted to be biased in favor of the predominant sense, while those with the qualifiers reversed should feel jarring and puzzling, and hence folk responses to them should not be taken to have a great significance. I find the results reported in Haukioja *et al.* (2023) consistent with this appraisal.

2. Sex and Gender Terms

It was Burge (1979) who was mostly responsible for establishing that attitudes favorable to "essentialism" manifested by Twin Earth intuitions and consonant categorization data in small children extend to terms for social kinds like artifacts ('sofa') or illnesses ('arthritis'), which Putnam had already noted. For them to be regarded as prospective natural kinds, we shouldn't understand the *natural kind* notion to mean that non-natural kinds are those that "reflect human interests", kinds "merely conventional ... whose boundaries are fixed by us rather than nature" (Bird & Tobin 2024, §1), even if these traits fit well the paradigm non-natural kind mentioned above, *weed*. *Natural* should not be used in opposition to 'conventional' or 'anthropocentric', for we want to allow for "social constructs" definable by social rules as kinds; in most cases they are instituted by convention and reflect human interests. Boyd (2021) and Khalidi (2023) similarly reject such accounts because, as the latter puts it, if we allow them "there can be no natural kinds in the social world or in the domain of artifacts" (Khalidi 2023, 2).

Dodging this pitfall, 'natural' is here understood to apply to properties and kinds in Lewis's (1983) "sparse" (as opposed to "abundant") sense. Unlike the sparse variant, *abundant* properties like Goodman's *grue* (*green and perceived before 2024, or blue*) effect groupings traced with no constraint on their explanatoriness; instances need not share anything "interesting". "Natural" properties and kinds are those that play substantive explanatory roles, having a "hidden nature" which only reveals itself to research (Devitt 2008, 351-355).

These explanatory roles need not be merely causal, discernible through empirical investigation (Khalidi 2023, 25-33); access to them might require philosophical, "*a priori*" theorizing. But it must be substantive, and unifiable with empirical theorizing. Bird & Tobin (2024, §2.4) admit that some theorists reject their natural vs. social contrast. As one critic nicely puts it, "the purpose of identifying natural kinds is to isolate groupings or patterns in the world that are real as opposed to spurious" (Khalidi 2023, 2), which allows that such real patterns be social kinds; Goldman *et al.*'s (2020) account of natural kinds as *superexplanatory* is also consistent with the view.

In the case of 'water', the best candidate for its essence is a (relatively) *intrinsic* property, *being constituted by H_2O molecules*; by 'intrinsic' we roughly refer to properties that could be had in isolation, by a solitary item unrelated to others. Many writers who reject essentialism for e.g. biological kinds in fact reject that they have *intrinsic* essences. Kripke and Putnam indeed assumed that kinds like *tiger* might have relatively intrinsic essences, which can be shared by animals on other planets – something like common genetic traits. Most current researchers reject this (Ereshefsky 2022; but see Devitt 2021). But the alternative need not be to conclude that *tiger* is not a natural kind, as it is reasonable to conclude for 'jade' from the fact that the term covers two different substances, or for secondary qualities like 'red' for which there is no single underlying common explanation for superficial traits like the *quale* it produces in us (GC 2007). There also are essences that are relational to some degree. We need not embrace "pure relational" definitions like the infamous *identified as such by the Artworld* for *art* (cf. Neill & Ridley 2012 for a good account why this *is* infamous) as definitions adequate to capture Aristotelian essences properly understood. But there are relational definitions that do delineate natural kinds with substantively explanatory essences (Bach 2022).

Walton (1970) famously characterizes categories of art such as *genres* (*Cubist painting*) as historical entities that arise at a particular time, defined by a set of *standard* features (typical of the class and called upon to include instances, like *geometrical framing of shapes* for Cubist painting), *contra-standard* features (atypical of the class and used to deny inclusion, like *realist photographic appearance* for that class) and indifferent *variable* features (*black and white*). Such sets distinguish the genre *Cubist painting* from any other instantiated at its time of inception; across time however, features can move from one category to another. Boyd's (2021) *Homeostatic Property Cluster* develops a similar account for biological kinds involving superficial, phenotypical features, adding the requirement of a "homeostatic" hidden mechanism that keeps standard features together (but may also change across time). It is questionable whether biological

kinds should be understood along these lines, on even more straightforwardly relational accounts as in *cladism,* or closer to the Kripke-Putnam intrinsic property view (Ereshefsky 2022). But I think it is unquestionable that cultural traditions like Analytic Philosophy should be understood along such lines (GC 2011). There is no intrinsic set of features (a methodology, a set of topics or views about them) that distinguish analytic from continental philosophy, or other schools. Frege's work is indeed distinguished from previous philosophy by a set of standard, contra-standard, and variable features. Through intellectual influence, the practice is transmitted to other scholars, allowing for features changing category. No "homeostatic" mechanism is required – just cultural transmission.

All these sorts of account can define adequate essences for natural social kinds as understood here. There has been a lively debate in the past two decades about race categories – for instance, the five discerned as Standards for the Classification of Federal Data on Race and Ethnicity by the U.S. Office of Management and Budget (Black, Asian, Pacific Islander, White, American Indian). Some argue that they are empty, like 'witch'; people are believed to fall under those categories, which explains effects ascribed to races (such as forms of discrimination), but nobody instantiates them because the criteria used in such classifications are contradictory or otherwise lead to too much indeterminacy, or because ruling them out of existence curtails unfair discriminatory prejudices (cf. James & Burgos 2024, §2 for references). Some argue that they exist, as much as biological categories and on similar grounds; perhaps they are distinctive homeostatic property clusters, or distinctive genetic clusters tracking a common geographical origin (cf. Spencer 2014 for a compelling defense). A reason to believe that they do is that this makes sense of, among other things, medical research on racially diverse patterns of medically relevant conditions (Spencer 2018). Still others agree that they are real, but identify them as "social constructs", perhaps roles defined by social norms; this view can allegedly better explain social facts, like for instance social (positive, or negative) discrimination (cf. Griffith 2020 for a clear formulation and further references). Finally, some also agree that there are races, but only on the "nominal essence" view as non-natural, non-explanatory kinds like the one that Putnam discerns as "water" in one of its senses (cf. Hardimon 2003, Glasgow & Woodward 2014).[4]

Now, many proponents of these views argue that their respective proposal offers the best account of *the* meaning of racial kind terms – what we may call

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4 Cf. Glasgow *et al.* (2019) and James & Burgos (2024) for more details and references concerning the four views on the ontology of race that I have distinguished.

race monism. However, in the spirit of Putnam's suggestions and the experimental results corroborating them that we mentioned, probably the best line is *pluralist*, as envisaged in a recent contribution to these debates: "the underdetermination of race by social science may be more of a blessing than a curse. If multiple concepts can satisfy the social sciences' job description for race, then different inquirers have flexibility to use the concept that best serves their goals", Khalifa and Lauer (2021, 14). Spencer (2019), once a defender of monism, now embraces such pluralism with solid considerations. This is the view I also think makes more sense for gender terms.

Some forms of monism (typically social constructionist versions) are defended in the spirit of "conceptual engineering". There has been a lively debate in recent years on whether this is the proper way of thinking of philosophy. But aside from the happy label, there is nothing new in the notion that philosophy typically involves proposals for the reform of our conceptual resources, predicated on some goal or other. This has been part of the self-conception of the discipline in the two more influential ways of understanding itself in the analytic tradition. One is the *non-exceptionalism* advocated in Quine's (1951) "Two Dogmas", according to which the discipline is straightforwardly continuous with science, conducted at a more abstract level. A more nuanced version of non-exceptionalism was recently advocated by Williamson (2022), who assigns to philosophy a role vis-à-vis science analogous to mathematics. On these views, Frege's, Russell's and the early Wittgenstein's work on the foundations of mathematics (what numbers are and how we can know them) are paradigm examples of groundbreaking work in philosophy, for they constitute original, formally sophisticated proposals manifestly on topics in the purview of the discipline, which generated a huge amount of debate (relative to the comparatively small number of professional practitioners) conducted in socially apposite venues like academic journals and conferences. Whether the proposals were on the right track or not is irrelevant: they contributed to expanding our knowledge just by precisely articulating new hypotheses *prima facie* worthy of consideration to account for given sets of data.

The Achilles heel of these claims is that, while groundbreaking proposals in science may be proved wrong and discarded, not all are. Many endure as acquired truths accepted by all, and those discarded are also generally ignored forever. Can this be said of any philosophical view? *Exceptionalists* about philosophy – the majority in the profession, judging by the proportion of those who believe in *a priori* knowledge and analytic truths, and identify *understanding* as opposed to truth as the discipline's main goal according to representative surveys (Bourget & Chalmers 2023) – are very sensitive to this concern. On a

version I endorse (cf. Beebee 2018), theoretical proposals in philosophy are rational reconstructions of conceptual landscapes – and hence fictions like idealized models in science. Using the Rawlsian method of reflective equilibrium, they articulate fictional narratives which, if explicitly rationally marshalled, would result in impressions and diagnoses akin to those that our own conceptual endowment intuitively issues, in particular about imaginary situations devised in clever thought experiments like Putnam's featuring Twin Earth. Philosophical theories thus understood don't aim at truth and would be foolish to claim it for themselves. Very different stories may systematize the same conceptual terrain equally well; no fact of the matter picks out one among them. Familiarizing ourselves with several of them, as different as they may be, greatly helps our understanding because it conveys a wider survey of the only genuine facts in the domain: those impressions and diagnoses about concrete cases that our conceptual capabilities do generate. Hence, no interesting proposal in the history of the discipline should be permanently put aside.

On the second view, philosophical activity includes as a matter of course "conceptual engineering" activities. Our rational reconstructions might discern flaws like inconsistencies or excessive indeterminacy in our concepts, which calls for advancing some sort of regimentation. Many proposals for dealing with the liar paradox (Beall *et al.*, 2023) can be understood in the spirit of conceptual engineering. The first, non-exceptionalist view also allows for the activity; the reform of "common sense", including its conceptual repertoire, is certainly a usual effect of scientific results. It is on such grounds that Spencer (2019) advertises pluralism about race talk.

The declared ambitions of conceptual engineering proposals that are more popular these days do not aim at epistemological virtues, but moral and political ones. This makes the debates in the case of *race* fraught with acrimonious controversies; and this is even truer in the case of gender terms. Monists here advance views roughly overlapping with those in the race case (cf. Mikkola 2024 for a recent review). Few, if any, advocate the skeptical view that there are no genders. Most would agree at least with the non-scientific, nominal kind view, on which there are two genders identified by superficial phenotypical features, and a wide class of humans that cannot be sharply classified on such categories. It is difficult to deny that there also are socially constructed gender categories, adequate to classify some left aside by the nominal categories, or to classify them differently on the basis of legal or otherwise practical decisions; for instance, for purposes of admission to professional sport competitions. Should we also acknowledge a biological view, on which genders correspond to the sexual categories *male* and *female* that apply also to non-human

animals? The lacunae of the folk, nominal categorizations is invoked in popular arguments commonly deployed against this by supporters of different forms of social constructionism – particularly by advocates of the most extreme form, on which something like *sincere self-identification* is the only criterion for belonging in a gender category.

This has made popular (even explicitly recommended by several influential institutions) the turn of phrase *sex assigned at birth*, which of course suggests that belonging in a sex category, as much as belonging in a socially constructed one, is a matter of decision by those with the proper authority – oneself, in what I just described as the most radical form. But this is clearly wrong (Byrne & Hooven 2024). The biological sex categories are in a perfectly good standing; in fact, they allow for much less indeterminacy than many other well-attested scientific classifications (Byrne 2020, Franklin-Hall 2021, Khalidi 2021). Moreover, Spencer's reasons why we need a biological category of race mentioned above clearly extend to the genders *male* and *female*. There are genuine medical research issues, which fortunately are beginning to be investigated more seriously than in the past, regarding *prima facie* significant disparities between men and women. For instance, researchers are currently investigating why professional female soccer players appear to be more prone than their male counterparts to serious knee injuries like ACL (Brockway 2023). Spencer's (2019) considerations for pluralism also extend to gender. For one thing, to prevent serious problems of circularity, the self-identification view needs a different account of the sense in which people self-identify as a man or a woman; both the non-explanatory, superficial kind view and the biological kind view are in *prima facie* intuitively good positions to supply it.

The by now all too familiar divisiveness generated by social media, and the aggressiveness of some monism supporters (particularly in my estimate, some supporters of the most extreme self-identification view), have made these debates more fraught with controversy than is justified; this has had painful, deeply regrettable consequences for philosophers who have made significant contributions to these debates like Alex Byrne, Holly Lawford Smith, and Kathleen Stock. The form of conceptual engineering that I trust would help to alleviate the situation would acknowledge pluralism as the sensible option here, joined with the exercise of good judgment, to determine which sense of gender terms a particular debate requires.[5]

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5 Cf. Haslanger (2016) and Barnes (2020) for articulations of the view I am recommending.

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